10

15

20

25

30

35

What is claimed is :

- 1. A combination comprising a therapeutically-effective amount of a cyclooxygenase-2 inhibitor and a leukotriene B_4 receptor antagonist.
- 2. A combination comprising a therapeutically-effective amount of a leukotriene B₄ receptor antagonist and a cyclooxygenase-2 inhibitor selected from Taisho NS-398, meloxicam, floculide, Merck MK-966, Merck L-752,860 and compounds of Formula I

$$\mathbf{I}^{\mathbb{R}^{2}} \overset{\circ}{\overset{\circ}{\underset{\mathsf{R}^{3}}{\bigcap}}} \mathbf{I}$$

wherein A is a substituent selected from partially unsaturated or unsaturated heterocyclyl and partially unsaturated or unsaturated carbocyclic rings;

wherein R¹ is at least one substituent selected from heterocyclyl, cycloalkyl, cycloalkenyl and aryl, wherein R¹ is optionally substituted at a substitutable position with one or more radicals selected from alkyl, haloalkyl, cyano, carboxyl, alkoxycarbonyl, hydroxyl, hydroxyalkyl, haloalkoxy, amino, alkylamino, arylamino, nitro, alkoxyalkyl, alkylsulfinyl, halo, alkoxy and alkylthio;

wherein R² is methyl or amino; and
wherein R³ is a radical selected from hydrido,
halo, alkyl, alkenyl, alkynyl, oxo, cyano, carboxyl,
cyanoalkyl, heterocyclyloxy, alkyloxy, alkylthio,
alkylcarbonyl, cycloalkyl, aryl, haloalkyl,
heterocyclyl, cycloalkenyl, aralkyl, heterocyclylalkyl,
acyl, alkylthioalkyl, hydroxyalkyl, alkoxycarbonyl,
arylcarbonyl, aralkylcarbonyl, aralkenyl, alkoxyalkyl,
arylthioalkyl, aryloxyalkyl, aralkylthioalkyl,
aralkoxyalkyl, alkoxyaralkoxyalkyl, alkoxycarbonylalkyl,

15

20

25

30

35

aminocarbonyl, aminocarbonylalkyl, alkylaminocarbonyl, N-arylaminocarbonyl, N-alkyl-N-arylaminocarbonyl, alkylaminocarbonylalkyl, carboxyalkyl, alkylamino, Narylamino, N-aralkylamino, N-alkyl-N-aralkylamino, Nalkyl-N-arylamino, aminoalkyl, alkylaminoalkyl, Narylaminoalkyl, N-aralkylaminoalkyl, N-alkyl-Naralkylaminoalkyl, N-alkyl-N-arylaminoalkyl, aryloxy, aralkoxy, arylthio, aralkylthio, alkylsulfinyl, alkylsulfonyl, aminosulfonyl, alkylaminosulfonyl, Narylaminosulfonyl, arylsulfonyl, N-alkyl-Narylaminosulfonyl;

or a pharmaceutically-acceptable salt thereof.

- The combination of Claim 2 wherein the leukotriene B4 receptor antagonist is selected from Bayer Bay-x-1005, Ciba-Geigy CGS-25019C, ebselen, Leo Denmark ETH-615, Lilly LY-293111, Ono ONO-4057, Terumo TMK-688, Boehringer Ingleheim BI-RM-270, Lilly LY 213024, Lilly LY 264086, Lilly LY 292728, Ono ONO LB457, Pfizer 105696, Perdue Frederick PF 10042, Rhone-Poulenc Rorer RP 66153, SmithKline Beecham SB-201146, SmithKline Beecham SB-201993, Searle SC-53228, Sumitamo SM 15178, American Home Products WAY 121006, Bayer Bayo-8276, calcitriol, Warner-Lambert CI-987, Merck and Co. L-651392, Lilly LY 210073, Lilly LY 223982, Lilly LY 233569, Lilly LY-255283, Merck and Co. MK-591, Merck and CO. MK-886, Ono ONO-LB-448, Purdue Frederick PF-5901, Rhone-Poulenc Rorer RG 14893, Rhone-Poulenc Rorer RP 66364, Rhone-Poulenc Rorer RP 69698, Searle SC-41930, Searle SC-50505, Searle SC-51146, SmithKline Beecham SK&F-104493, and Teijin TEI-1338.
- The combination of Claim 3 wherein the leukotriene B_4 receptor antagonist is selected from Bayer Bay-x-1005, Ciba-Geigy CGS-25019C, ebselen, Leo Denmark ETH-615, Lilly LY-293111, Ono ONO-4057, Terumo TMK-688, Boehringer Ingleheim BI-RM-270, Lilly LY

10

25

30

35

213024, Lilly LY 264086, Lilly LY 292728, Ono ONO LB457, Pfizer 105696, Perdue Frederick PF 10042, Rhone-Poulenc Rorer RP 66153, SmithKline Beecham SB-201146, SmithKline Beecham SB-201993, Searle SC-53228, Sumitamo SM 15178, and American Home Products WAY 121006.

- 5. The combination of Claim 4 wherein the leukotriene B₄ receptor antagonist is selected from Bayer Bay-x-1005, Ciba-Geigy CGS-25019C, ebselen, Leo Denmark ETH-615, Lilly LY-293111, Ono ONO-4057, and Terumo TMK-688.
- 6. The combination of Claim 2 wherein A is selected from 5- or 6-member partially unsaturated heterocyclyl, 5- or 6-member unsaturated heterocyclyl, 9- or 10-member unsaturated condensed heterocyclyl, lower cycloalkenyl and phenyl; wherein R1 is selected from 5- and 6membered heterocyclyl, lower cycloalkyl, lower cycloalkenyl and aryl selected from phenyl, biphenyl and naphthyl, wherein R^1 is optionally substituted at a substitutable position with one or more radicals selected from lower alkyl, lower haloalkyl, cyano, carboxyl, lower alkoxycarbonyl, hydroxyl, lower hydroxyalkyl, lower haloalkoxy, amino, lower alkylamino, phenylamino, lower alkoxyalkyl, lower alkylsulfinyl, halo, lower alkoxy and lower alkylthio; wherein R2 is methyl or amino; and wherein R^3 is a radical selected from hydrido, oxo, cyano, carboxyl, lower alkoxycarbonyl, lower carboxyalkyl, lower cyanoalkyl, halo, lower alkyl, lower alkyloxy, lower cycloalkyl, phenyl, lower haloalkyl, 5- or 6-membered heterocyclyl, lower hydroxylalkyl, lower aralkyl, acyl, phenylcarbonyl, lower alkoxyalkyl, 5- or 6-membered heteroaryloxy, aminocarbonyl, lower alkylaminocarbonyl, lower alkylamino, lower aminoalkyl, lower alkylaminoalkyl, phenyloxy, and lower aralkoxy; or a pharmaceutically-acceptable salt thereof.

25

30

35

The combination of Claim 6 wherein A is 7. selected from oxazolyl, isoxazolyl, thienyl, dihydrofuryl, furyl, pyrrolyl, pyrazolyl, thiazolyl, imidazolyl, isothiazolyl, benzofuryl, cyclopentenyl, cyclopentadienyl, phenyl, and pyridyl; wherein R1 is selected from pyridyl optionally substituted at a substitutable position with one or more methyl radicals, and phenyl optionally substituted at a substitutable position with one or more radicals selected from methyl, ethyl, isopropyl, butyl, tertbutyl, isobutyl, pentyl, hexyl, cyano, fluoromethyl, difluoromethyl, trifluoromethyl, carboxyl, methoxycarbonyl, ethoxycarbonyl, hydroxymethyl, trifluoromethoxy, hydroxyl, amino, N-methylamino, N,Ndimethylamino, N-ethylamino, N, N-dipropylamino, Nbutylamino, N-methyl-N-ethylamino, phenylamino, methoxymethyl, methylsulfinyl, fluoro, chloro, bromo, methoxy, ethoxy, propoxy, n-butoxy, pentoxy, and methylthio; wherein R² is methyl or amino; and wherein R³ is a radical selected from hydrido, oxo, cyano, carboxyl, methoxycarbonyl, ethoxycarbonyl, carboxypropyl, carboxymethyl, carboxyethyl, cyanomethyl, fluoro, chloro, bromo, methyl, ethyl, isopropyl, butyl, tert-butyl, isobutyl, pentyl, hexyl, difluoromethyl, trifluoromethyl, pentafluoroethyl, heptafluoropropyl, difluoroethyl, difluoropropyl, methoxy, ethoxy, propoxy, n-butoxy, pentoxy, cyclohexyl, phenyl, pyridyl, thienyl, thiazolyl, oxazolyl, furyl, pyrazinyl, hydroxylmethyl, hydroxylpropyl, benzyl, formyl, phenylcarbonyl, methoxymethyl, furylmethyloxy, aminocarbonyl, Nmethylaminocarbonyl, N,N-dimethylaminocarbonyl, N,Ndimethylamino, N-ethylamino, N, N-dipropylamino, Nbutylamino, N-methyl-N-ethylamino, aminomethyl, N,N-

dimethylaminomethyl, N-methyl-N-ethylaminomethyl,

15

benzyloxy, and phenyloxy; or a pharmaceuticallyacceptable salt thereof.

- The combination of Claim 7 selected from
 compounds and their pharmaceutically-acceptable salts, of the group consisting of
 - 4-[5-(4-chlorophenyl)-3-(trifluoromethyl)-1H-pyrazol-1-yl]benzenesulfonamide;
 - 4-[5-(4-methylphenyl)-3-(trifluoromethyl)-1H-pyrazol-1-yl]benzenesulfonamide;
 - 4-[5-(3-fluoro-4-methoxyphenyl)-3-(difluoromethyl)-1Hpyrazol-1-yl]benzenesulfonamide;
 - 3-[1-[4-(methylsulfonyl)phenyl]-4-trifluoromethyl-1Himidazol-2-yl]pyridine;
 - 2-methyl-5-[1-[4-(methylsulfonyl)phenyl]-4trifluoromethyl-1H-imidazol-2-yl]pyridine;
 - 4-[2-(5-methylpyridin-3-yl)-4-(trifluoromethyl)-1H-imidazol-1-yl]benzenesulfonamide;
 - 4-[5-methyl-3-phenylisoxazol-4-yl]benzenesulfonamide;
 - 4-[5-hydroxymethyl-3-phenylisoxazol-4yl]benzenesulfonamide;
 - [2-trifluoromethyl-5-(3,4-difluorophenyl)-4oxazolyl]benzenesulfonamide;
- 4-[2-methyl-4-phenyl-5-oxazolyl]benzenesulfonamide; and 4-[5-(3-fluoro-4-methoxyphenyl-2-trifluoromethyl)-4-oxazolyl]benzenesulfonamide.
- 9. A pharmaceutical composition comprising a

 pharmaceutically-acceptable carrier and a
 therapeutically-effective amount of a leukotriene B4
 receptor antagonist and a cyclooxygenase-2 inhibitor
 selected from Taisho NS-398, meloxicam, floculide, Merck
 MK-966, Merck L-752,860 and compounds of Formula I

35

20

25

30

arylaminosulfonyl;

$$\mathbf{I}^{\mathbf{R}^{2}} \overset{\circ}{\underset{\mathsf{S}^{3}}{\mathbf{I}}} \mathbf{I}$$

wherein A is a substituent selected from partially unsaturated or unsaturated heterocyclyl and partially unsaturated or unsaturated carbocyclic rings;

wherein R¹ is at least one substituent selected from heterocyclyl, cycloalkyl, cycloalkenyl and aryl, wherein R¹ is optionally substituted at a substitutable position with one or more radicals selected from alkyl, haloalkyl, cyano, carboxyl, alkoxycarbonyl, hydroxyl, hydroxyalkyl, haloalkoxy, amino, alkylamino, arylamino, nitro, alkoxyalkyl, alkylsulfinyl, halo, alkoxy and alkylthio;

wherein R^2 is methyl or amino; and wherein R^3 is a radical selected from hydrido, halo, alkyl, alkenyl, alkynyl, oxo, cyano, carboxyl, cyanoalkyl, heterocyclyloxy, alkyloxy, alkylthio, alkylcarbonyl, cycloalkyl, aryl, haloalkyl, heterocyclyl, cycloalkenyl, aralkyl, heterocyclylalkyl, acyl, alkylthioalkyl, hydroxyalkyl, alkoxycarbonyl, arylcarbonyl, aralkylcarbonyl, aralkenyl, alkoxyalkyl, arylthioalkyl, aryloxyalkyl, aralkylthioalkyl, aralkoxyalkyl, alkoxyaralkoxyalkyl, alkoxycarbonylalkyl, aminocarbonyl, aminocarbonylalkyl, alkylaminocarbonyl, N-arylaminocarbonyl, N-alkyl-N-arylaminocarbonyl, alkylaminocarbonylalkyl, carboxyalkyl, alkylamino, Narylamino, N-aralkylamino, N-alkyl-N-aralkylamino, Nalkyl-N-arylamino, aminoalkyl, alkylaminoalkyl, Narylaminoalkyl, N-aralkylaminoalkyl, N-alkyl-Naralkylaminoalkyl, N-alkyl-N-arylaminoalkyl, aryloxy, aralkoxy, arylthio, aralkylthio, alkylsulfinyl, alkylsulfonyl, aminosulfonyl, alkylaminosulfonyl, Narylaminosulfonyl, arylsulfonyl, N-alkyl-N-

20

25

30

or a pharmaceutically-acceptable salt thereof.

10. A method of treating inflammation or an inflammation-associated disorder in a subject, said method comprising co-administering to the subject having or susceptible to such inflammation or inflammation-associated disorder, a therapeutically-effective amount of a leukotriene B₄ receptor antagonist and a cyclooxygenase-2 inhibitor selected from Taisho NS-398, meloxicam, floculide, Merck MK-966, Merck L-752,860 and compounds of Formula I

$$\mathbf{I}^{\mathbb{R}^{2}} \overset{\circ}{\underset{\mathbb{R}^{3}}{\bigvee}} \mathbf{I}$$

wherein A is a substituent selected from partially unsaturated or unsaturated heterocyclyl and partially unsaturated or unsaturated carbocyclic rings;

wherein R¹ is at least one substituent selected from heterocyclyl, cycloalkyl, cycloalkenyl and aryl, wherein R¹ is optionally substituted at a substitutable position with one or more radicals selected from alkyl, haloalkyl, cyano, carboxyl, alkoxycarbonyl, hydroxyl, hydroxyalkyl, haloalkoxy, amino, alkylamino, arylamino, nitro, alkoxyalkyl, alkylsulfinyl, halo, alkoxy and alkylthio;

wherein R² is methyl or amino; and
wherein R³ is a radical selected from hydrido,
halo, alkyl, alkenyl, alkynyl, oxo, cyano, carboxyl,
cyanoalkyl, heterocyclyloxy, alkyloxy, alkylthio,
alkylcarbonyl, cycloalkyl, aryl, haloalkyl,
heterocyclyl, cycloalkenyl, aralkyl, heterocyclylalkyl,
acyl, alkylthioalkyl, hydroxyalkyl, alkoxycarbonyl,
arylcarbonyl, aralkylcarbonyl, aralkenyl, alkoxyalkyl,
arylthioalkyl, aryloxyalkyl, aralkylthioalkyl,

10

15

20

aralkoxyalkyl, alkoxyaralkoxyalkyl, alkoxycarbonylalkyl, aminocarbonyl, aminocarbonylalkyl, alkylaminocarbonyl, N-arylaminocarbonyl, N-arylaminocarbonyl, alkylaminocarbonyl, alkylaminocarbonylalkyl, carboxyalkyl, alkylamino, N-arylamino, N-aralkylamino, N-aralkylamino, N-aralkylamino, N-aralkylamino, N-arylaminoalkyl, N-aralkylaminoalkyl, N-arylaminoalkyl, N-aralkylaminoalkyl, N-arylaminoalkyl, aryloxy, aralkoxy, arylthio, aralkylthio, alkylsulfinyl, alkylsulfonyl, aminosulfonyl, alkylaminosulfonyl, N-arylaminosulfonyl, arylsulfonyl, N-alkyl-N-arylaminosulfonyl;

or a pharmaceutically-acceptable salt thereof.

- 11. The method of Claim 10 wherein said leukotriene B₄ receptor antagonist and said cycloxygenase-2 inhibitor are administered in a sequential manner.
- 12. The method of Claim 10 wherein said leukotriene B₄ receptor antagonist and said cycloxygenase-2 inhibitor are administered in a substantially simultaneous manner.
- 13. The method of Claim 10 wherein the leukotriene B4 receptor antagonist is selected from Bayer Bay-x25 1005, Ciba-Geigy CGS-25019C, ebselen, Leo Denmark ETH615, Lilly LY-293111, Ono ONO-4057, Terumo TMK-688,
 Boehringer Ingleheim BI-RM-270, Lilly LY 213024, Lilly
 LY 264086, Lilly LY 292728, Ono ONO LB457, Pfizer
 105696, Perdue Frederick PF 10042, Rhone-Poulenc Rorer
 30 RP 66153, SmithKline Beecham SB-201146, SmithKline
 Beecham SB-201993, Searle SC-53228, Sumitamo SM 15178,
 and American Home Products WAY 121006.
- 14. The method of Claim 13 wherein the leukotriene 35 B₄ receptor antagonist is selected from Bayer Bay-x-1005, Ciba-Geigy CGS-25019C, ebselen, Leo Denmark ETH-615, Lilly LY-293111, Ono ONO-4057, and Terumo TMK-688.

10

15

20

25

15. The method of Claim 10 wherein A is selected from 5- or 6-member partially unsaturated heterocyclyl, 5- or 6-member unsaturated heterocyclyl, 9- or 10-member unsaturated condensed heterocyclyl, lower cycloalkenyl and phenyl; wherein R1 is selected from 5- and 6membered heterocyclyl, lower cycloalkyl, lower cycloalkenyl and aryl selected from phenyl, biphenyl and naphthyl, wherein R1 is optionally substituted at a substitutable position with one or more radicals selected from lower alkyl, lower haloalkyl, cyano, carboxyl, lower alkoxycarbonyl, hydroxyl, lower .hydroxyalkyl, lower haloalkoxy, amino, lower alkylamino, phenylamino, lower alkoxyalkyl, lower alkylsulfinyl, halo, lower alkoxy and lower alkylthio; wherein R² is methyl or amino; and wherein R3 is a radical selected from hydrido, oxo, cyano, carboxyl, lower alkoxycarbonyl, lower carboxyalkyl, lower cyanoalkyl, halo, lower alkyl, lower alkyloxy, lower cycloalkyl, phenyl, lower haloalkyl, 5- or 6-membered heterocyclyl, lower hydroxylalkyl, lower aralkyl, acyl, phenylcarbonyl, lower alkoxyalkyl, 5- or 6-membered heteroaryloxy, aminocarbonyl, lower alkylaminocarbonyl, lower alkylamino, lower aminoalkyl, lower alkylaminoalkyl, phenyloxy, and lower aralkoxy; or a

16. The method of Claim 15 wherein A is selected from oxazolyl, isoxazolyl, thienyl, dihydrofuryl,

30 furyl, pyrrolyl, pyrazolyl, thiazolyl, imidazolyl, isothiazolyl, benzofuryl, cyclopentenyl, cyclopentadienyl, phenyl, and pyridyl; wherein R¹ is selected from pyridyl optionally substituted at a substitutable position with one or more methyl

35 radicals, and phenyl optionally substituted at a substitutable position with one or more radicals selected from methyl, ethyl, isopropyl, butyl, tert-

pharmaceutically-acceptable salt thereof.

butyl, isobutyl, pentyl, hexyl, cyano, fluoromethyl, difluoromethyl, trifluoromethyl, carboxyl, methoxycarbonyl, ethoxycarbonyl, hydroxymethyl, trifluoromethoxy, hydroxyl, amino, N-methylamino, N,Ndimethylamino, N-ethylamino, N,N-dipropylamino, Nbutylamino, N-methyl-N-ethylamino, phenylamino, methoxymethyl, methylsulfinyl, fluoro, chloro, bromo, methoxy, ethoxy, propoxy, n-butoxy, pentoxy, and methylthio; wherein R^2 is methyl or amino; and wherein 10 R³ is a radical selected from hydrido, oxo, cyano, carboxyl, methoxycarbonyl, ethoxycarbonyl, carboxypropyl, carboxymethyl, carboxyethyl, cyanomethyl, fluoro, chloro, bromo, methyl, ethyl, isopropyl, butyl, tert-butyl, isobutyl, pentyl, hexyl, 15 difluoromethyl, trifluoromethyl, pentafluoroethyl, heptafluoropropyl, difluoroethyl, difluoropropyl, methoxy, ethoxy, propoxy, n-butoxy, pentoxy, cyclohexyl, phenyl, pyridyl, thienyl, thiazolyl, oxazolyl, furyl, pyrazinyl, hydroxylmethyl, 20 hydroxylpropyl, benzyl, formyl, phenylcarbonyl, methoxymethyl, furylmethyloxy, aminocarbonyl, Nmethylaminocarbonyl, N,N-dimethylaminocarbonyl, N,Ndimethylamino, N-ethylamino, N,N-dipropylamino, Nbutylamino, N-methyl-N-ethylamino, aminomethyl, N,N-25 dimethylaminomethyl, N-methyl-N-ethylaminomethyl,

17. The method of Claim 16 selected from compounds 30 and their pharmaceutically-acceptable salts, of the group consisting of

benzyloxy, and phenyloxy; or a pharmaceutically-

acceptable salt thereof.

- 4-[5-(4-chlorophenyl)-3-(trifluoromethyl)-1H-pyrazol-1-yl]benzenesulfonamide;
- 35 4-[5-(4-methylphenyl)-3-(trifluoromethyl)-1H-pyrazol-1yl]benzenesulfonamide;

- 4-[5-(3-fluoro-4-methoxyphenyl)-3-(difluoromethyl)-1H-pyrazol-1-yl]benzenesulfonamide;
- 3-[1-[4-(methylsulfonyl)phenyl]-4-trifluoromethyl-1Himidazol-2-yl]pyridine;
- 5 2-methyl-5-[1-[4-(methylsulfonyl)phenyl]-4trifluoromethyl-1H-imidazol-2-yl]pyridine;
 - 4-[2-(5-methylpyridin-3-yl)-4-(trifluoromethyl)-1H-imidazol-1-yl]benzenesulfonamide;
 - 4-[5-methyl-3-phenylisoxazol-4-yl]benzenesulfonamide;
- 10 4-[5-hydroxyethyl-3-phenylisoxazol-4yl]benzenesulfonamide;
 - [2-trifluoromethyl-5-(3,4-difluorophenyl)-4oxazolyl]benzenesulfonamide;
 - 4-[2-methyl-4-phenyl-5-oxazolyl]benzenesulfonamide; and
- 15 4-[5-(3-fluoro-4-methoxyphenyl-2-trifluoromethyl)-4-oxazolyl]berzenesulfonamide.
 - 18. The method of Claim 10 wherein the condition is inflammation.
 - 19. The method of Claim 10 wherein the condition is an inflammation-associated disorder.
- 20. The method of Claim 19 wherein the inflammation-associated disorder is arthritis.
 - 21. The method of Claim 10 wherein the subject is susceptible to inflammation.
- 30 22. The method of Claim 10 wherein the subject is susceptible to an inflammation-associated disorder.
 - 23. The method of Claim 22 wherein the subject is susceptible to arthritis.